1021F
1121F
TIER IV

Service Manual

Print No. 84571203B

CASE CONSTRUCTION

1021F
1121F

Wheel Loader

84571203B

Use for Service Manual

Contents

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admin@servicemanualperfect.com

INTRODUCTION

Contents

INTRODUCTION

(*) See content for specific models

Torque

1021F	NA --- WE
1121F	NA --- WE

Alternator

Alternator pulley retaining nut	**95 - 109 N·m** (**70 - 80 lb ft**)
Battery terminal nut	**6 - 8 N·m** (**55 - 72 lb in**)
Indicator light terminal nut	**2 - 3 N·m** (**16 - 24 lb in**)

Axle

Planetary carrier lock screws	**200 N·m** (**148 lb ft**)
Brake spring retainer cover	**34 N·m** (**25 lb ft**)
Axle wheel end screw plug	**50 N·m** (**37 lb ft**)
Nut Securing Brake Tube to Connector	**100 N·m** (**74 lb ft**)
Brake Tube Fitting to Wheel End Fitting	**36 N·m** (**27 lb ft**)
Axle housing bolts	**560 N·m** (**413 lb ft**)
Input flange slotted nut	**1200 N·m** (**885 lb ft**)
Differential releasing housing cover bolts	**185 N·m** (**136 lb ft**)
Differential housing cover bolts	**400 N·m** (**295 lb ft**)
Wheel mounting bolts	**644 - 719 N·m** (**475 - 530 lb ft**)
Axle breather valve	**4 - 6 N·m** (**35 - 53 lb in**)
Front axle mounting bolts	**1519 - 1708 N·m** (**1120 - 1260 lb ft**)
Rear trunnion cover bolts	**103 - 115 N·m** (**76 - 85 lb ft**)
Rear trunnion spacer bolts	**285 - 319 N·m** (**210 - 235 lb ft**)
Trunnion casting mounting	**651 - 732 N·m** (**480 - 540 lb ft**)

Chassis

Cab and canopy mounting bolts	**773 - 854 N·m** (**570 - 630 lb ft**)
Counterweight mounting bolts	**1125 - 1261 N·m** (**830 - 930 lb ft**)
Lower step support bolts	**27 - 31 N·m** (**20 - 23 lb ft**)
Battery hold down bolts	**651 - 732 N·m** (**480 - 540 lb ft**)

Cooling

Cooling frame mounting	**271 - 298 N·m** (**200 - 220 lb ft**)
Fan mounting nut	**109 - 122 N·m** (**80 - 90 lb ft**)

DEF system

Heater valve bolts	**17 - 19 N·m** (**13 - 14 lb ft**)
Dosing module bolts	**7 - 8 N·m** (**58 - 68 lb in**)
DEF control module/pump assembly mounting bolts	**20 - 28 N·m** (**15 - 21 lb ft**)

Drivetrain

Flex plate to flywheel bolts	**33 - 41 N·m** (**24 - 30 lb ft**)
Carrier bearing bolt	**149 - 163 N·m** (**110 - 120 lb ft**)
Drive line mounting bolts	**136 - 149 N·m** (**100 - 110 lb ft**)
Transmission sight gauge mounting bolts	**3 - 5 N·m** (**24 - 48 lb in**)
Transmission shock mount nuts	**929 - 1044 N·m** (**685 - 770 lb ft**)
Transmission-to-bracket bolts	**1125 - 1275 N·m** (**830 - 940 lb ft**)
Transmission-to-flywheel housing bolts	**54 - 60 N·m** (**40 - 44 lb ft**)
Transmission fill tube bolts	**17 - 33 N·m** (**151 - 292 lb in**)
Banjo tube bolt	**160 N·m** (**118 lb ft**)

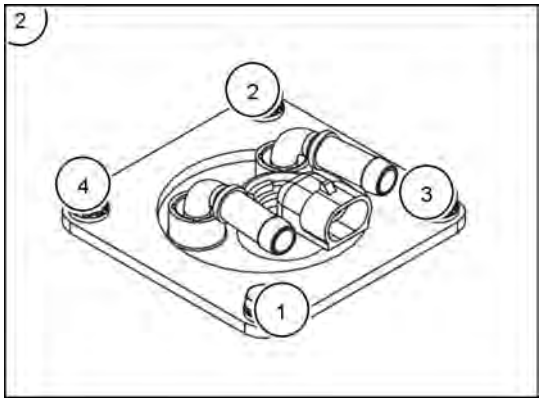
Bypass valve hose clamps	**10 - 11 N·m** (**90 - 100 lb in**)

Engine

Air intake hose clamps	**4 - 5 N·m** (**35 - 44 lb in**)
Aspirator hose clamps	**3 N·m** (**30 lb in**)
Muffler flex tube clamp	**18 - 22 N·m** (**13 - 16 lb ft**)
Muffler clamp at turbo	**5 - 6 N·m** (**44 - 53 lb in**)
Starter motor mounting bolts	**41 - 48 N·m** (**30 - 35 lb ft**)
Engine support bracket-to-rear chassis bolts	**386 - 434 N·m** (**285 - 320 lb ft**)
Engine shock mount nuts	**397 - 447 N·m** (**293 - 330 lb ft**)

Fuel tank

Tighten the fuel sender bolts in the sequence as shown in the image **(2)** to a torque of **6 - 8 N·m** (**53 - 71 lb in**).



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Fuel sender mounting bolts	**6 - 8 N·m** (**53 - 71 lb in**)
Fuel tank skid plate bolts (bolts and nuts are to be torqued only one time. Replace as necessary)	**122 - 164 N·m** (**90 - 121 lb ft**)
Fuel tank mounting bolts (bolts and nuts are to be torqued only one time. Replace as necessary)	**301 - 407 N·m** (**222 - 300 lb ft**)

Hydraulics

Priority valve mounting bolts	**85 - 102 N·m** (**63 - 75 lb ft**)
Main hydraulic pump elbow	**85 - 102 N·m** (**63 - 75 lb ft**)
Hydraulic tank sight gauge mounting	**3 - 6 N·m** (**27 - 53 lb in**)
Surge tank hose clamp mounting	**48 N·m** (**35 lb ft**)
Brake pump mounting bolts	**149 - 170 N·m** (**110 - 125 lb ft**)
Hydraulic oil tank suction hose clamps	**10 - 11 N·m** (**90 - 100 lb in**)
Split, half clamp flange bolts (hydraulic tank-to-pumps and priority valve-to-pump)	**73 - 90 N·m** (**54 - 67 lb ft**)
Split, half clamp flange bolts (priority valve-to-loader valve)	**198 - 242 N·m** (**146 - 179 lb ft**)
Pump mounting bolts	**149 - 170 N·m** (**110 - 125 lb ft**)

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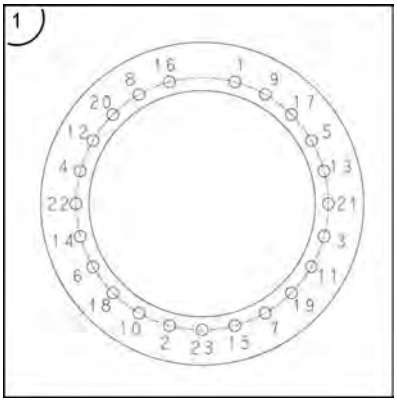
Tighten the wheel nuts in two stages. First, tighten the wheel nuts in the sequence as shown in the image **(1)** to a torque of **278 N·m** (**205 lb ft**). Second, tighten the wheel nuts in the sequence as shown in the image **(1)** to a torque of **640 - 720 N·m** (**472 - 531 lb ft**).



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1021F	INT
1121F	INT

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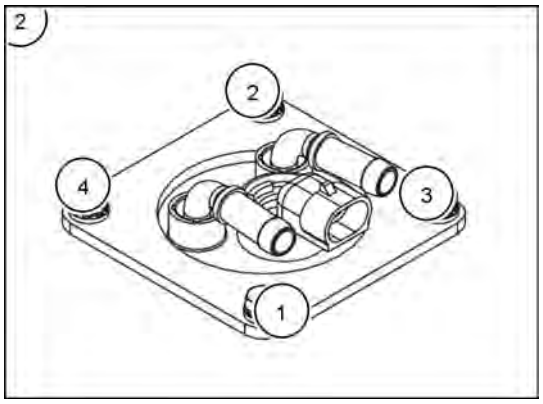

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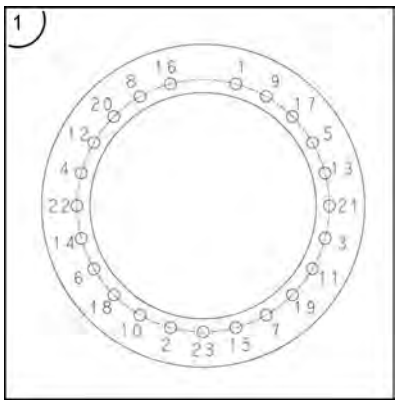

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Wheel nuts	First stage: **278 N·m** (**205 lb ft**). Second stage: **640 - 720 N·m** (**472 - 531 lb ft**)

Capacities

1021F	NA --- WE
1121F	NA --- WE

1021F Capacities and specifications

Engine		
	Type of oil	Case Akcela (SAE 15W-40)
	Capacity (with filter change)	**28.5 l** (**30.1 US qt**)
Cooling system		
	System capacity	**56.8 l** (**60.0 US qt**)
Fuel system		
	System capacity	**473.0 l** (**125.0 US gal**)
Hydraulic system		
	Type of fluid	Case Akcela Hy-Tran Ultra
	Total system capacity	**250.0 l** (**66.0 US gal**)
	Reservoir capacity	**134.0 l** (**35.4 US gal**)
Transmission		
	Type of oil	Case Nexplore
	Service capacity - with filter change	**45.4 l** (**48.0 US qt**)
Axles		
	Type of oil	Case Nexplore
	Front axle	**42.0 l** (**44.4 US qt**)
	Rear axle	**42.0 l** (**44.4 US qt**)
	Front axle with axle cooler	**45.7 l** (**48.3 US qt**)
	Rear axle with axle cooler	**45.7 l** (**48.3 US qt**)
	Heavy duty front axle	**62.0 l** (**65.5 US qt**)
	Heavy duty front axle with cooler	**65.7 l** (**69.4 US qt**)
DEF (Diesel Exhaust Fluid)		
	Total capacity	**90.8 l** (**24.0 US gal**)
Grease fittings, as required		Case Akcela Molydisulfide

* Machines are shipped from the factory with break-in oil.

1121F Capacities and specifications

Engine		
	Type of oil	Case Akcela (SAE 15W-40)
	Capacity (with filter change)	**28.5 l** (**30.1 US qt**)
Cooling system		
	System capacity	**56.8 l** (**60.0 US qt**)
Fuel system		
	System capacity	**473.0 l** (**125.0 US gal**)
Hydraulic system		
	Type of fluid	Case Akcela Hy-Tran Ultra
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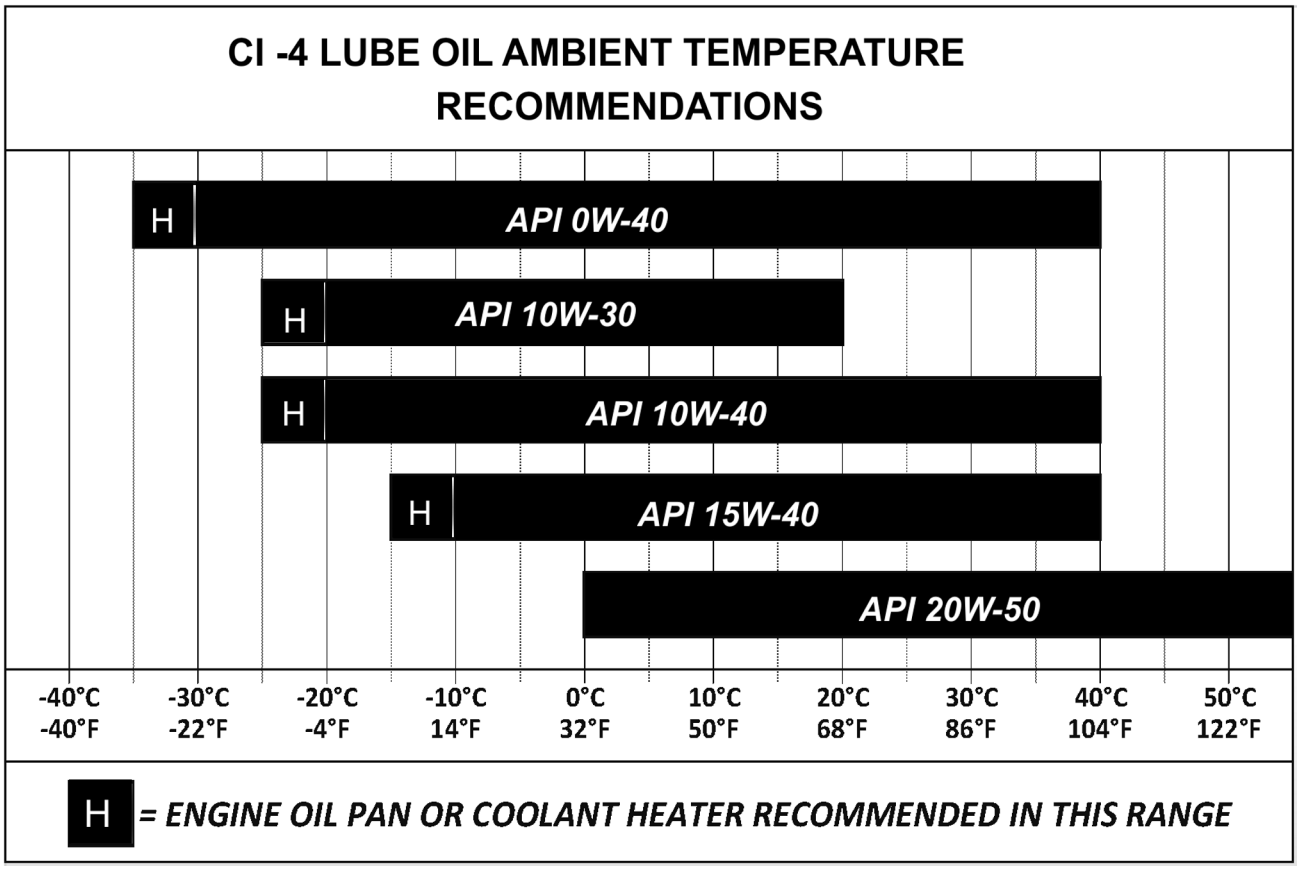
Transmission		
	Type of oil	Case Nexplore
	Service capacity - with filter change	**45.4 l** (**48.0 US qt**)
Axles		
	Type of oil	Case Nexplore
	Front axle	**64.0 l** (**67.6 US qt**)
	Rear axle	**64.0 l** (**67.6 US qt**)
	Front axle with axle cooler	**67.7 l** (**71.5 US qt**)
	Rear axle with axle cooler	**67.7 l** (**71.5 US qt**)
	Front axle with differential lock	**62.0 l** (**65.5 US qt**)
	Front axle with differential lock and axle cooler	**65.7 l** (**69.4 US qt**)
DEF (Diesel Exhaust Fluid)		
	Total capacity	**90.8 l** (**24.0 US gal**)
Grease fittings, as required		Case Akcela Molydisulfide

* Machines are shipped from the factory with break-in oil.

Engine oil viscosity/Temperature ranges



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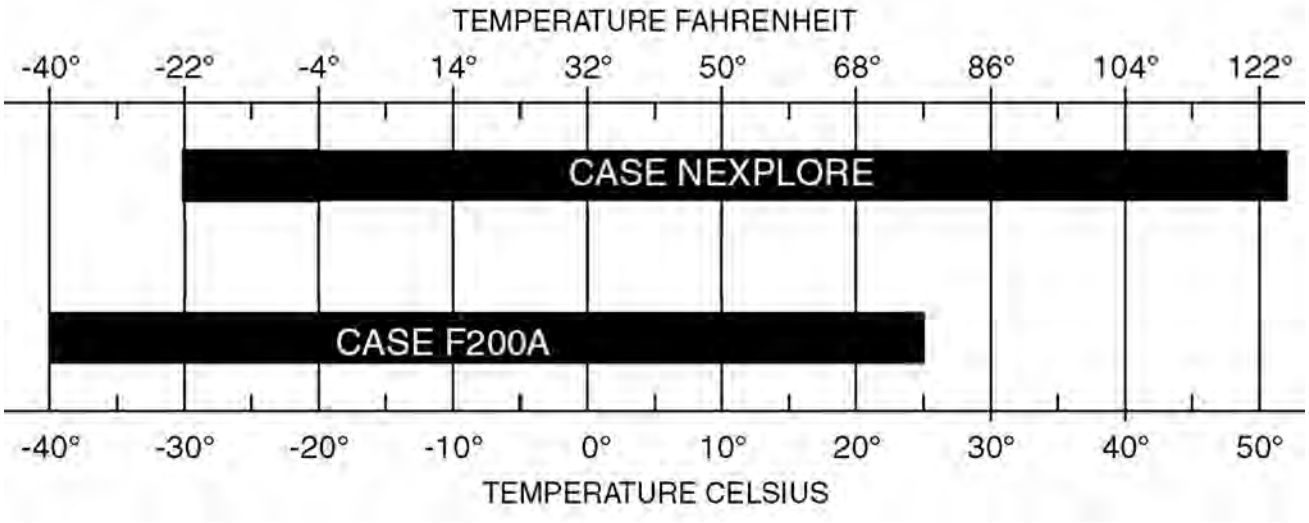
NOTE: *Use of an engine oil pan heater or an engine coolant heater may be required when operating temperatures are in Winter or Arctic conditions.*

Transmission oil viscosity/Temperature ranges



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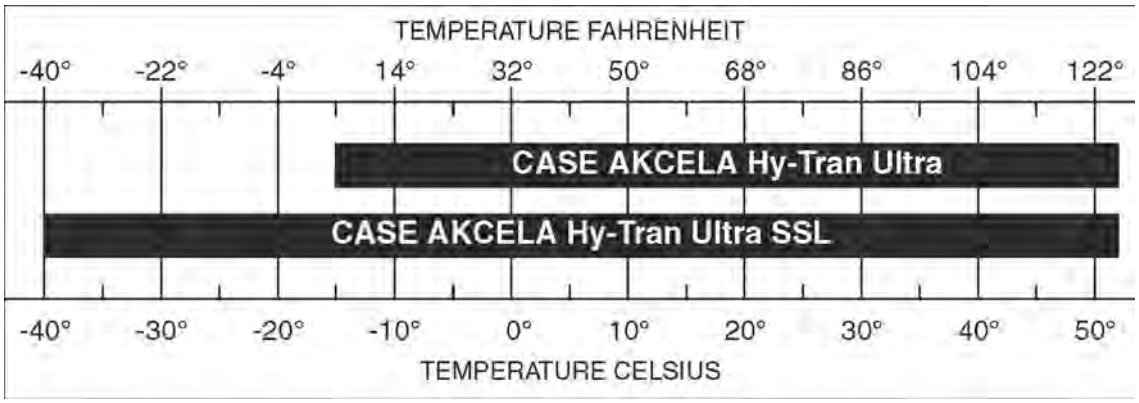
Hydraulic/Brake system - temperature range



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Coolant solution

Put only ethylene-glycol coolant solution in the cooling system. Use good quality ethylene-glycol that has a high boiling point with no additives to prevent leakage. Do not use non-approved anti-rust additives. Anti-rust additives and ethylene-glycol can mix and work against each other, reducing anti-corrosion protection, forming deposits in the cooling system, and causing damage to the cooling system and radiator. Contact your dealer who can supply you with the suitable coolant solution.

Anti-freeze/Anti-corrosion

Use anti-freeze in all seasons to protect the cooling system from corrosion and risk of freezing. For areas where the ambient temperature is over **-36 °C** (**-32.8 °F**) use a blend of 50% ethylene-glycol based anti-freeze.

For areas where the temperature is below **-36 °C** (**-32.8 °F**)- it is advisable to use a blend of 40% water and 60% anti-freeze.

Fuel

Use diesel fuel suitable for the ambient temperature conditions (ASTM-D-975).

Use fuel which is to ASTM (American Society for Testing and Materials) D975 standard.

Use grade No. 2 fuel. The use of other types of fuel can result in a loss of power of the engine and may cause high fuel consumption.

In very low ambient temperatures, use a mixture of fuels No. 1 and No. 2 as necessary. Consult your fuel supplier for appropriate fuel supply.

If the temperature falls below the fuel cloud point (point at which wax begins to form) the wax crystals will cause power loss or will prevent the engine from starting.

In cold weather, fill the fuel tank at the end of the day's work in order to prevent the formation of condensation.

Fuel storage

Prolonged storage of fuel can lead to the accumulation of impurities and condensation in the fuel. Engine trouble can often be traced to the presence of water in the fuel.

The storage tank must be placed outside and the temperature of the fuel should be kept as low as possible. Drain off water and impurities regularly.

Hydraulic fluid

Case Akcela Hy-Tran Ultra hydraulic fluid is specifically designed for high pressure applications and for Case hydraulic systems. Your Case Dealer can provide hydraulic fluid to fulfill different climate/temperature conditions. Refer to the charts at the beginning of this section.

Transmission component oil

Extreme pressure oil should be used for enclosed transmission components. Choose an oil that is manufactured for your climate/temperature conditions such as Case Nexplore or CNH F200A. See charts at the beginning of this section.

Grease

The type of grease to use depends on ambient temperature such as: Case Akcela Molydisulfide Grease

Environment

Before you service this machine and dispose of oil, fluids, and lubricants, obey environmental regulations. Do not drain oil or fluids on to the ground or into containers that leak. Check with your local environmental, recycling center or your dealer for correct disposal information.

Engine oil

Case Akcela engine oil is recommended for your engine. This oil insures correct lubrication of your engine in all working conditions. See charts at the beginning of this section to choose the correct oil for climate/temperatures.

If Case Akcela engine oil cannot be obtained, use only oil of the API SERVICE CI-4 category.

NOTE: *Do not put any Performance Additive or other additive in the sump. Oil change intervals shown in this manual are based on tests carried out utilizing Case lubricants.*

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Capacities

1021F	INT
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1021F Capacities and specifications

Engine	
Type of oil	**CASE AKCELA ENGINE OIL 15W-40**
Capacity (with filter change)	**28.5 l** (**30.1 US qt**)
Cooling system	
System capacity	**56.8 l** (**60.0 US qt**)
Fuel system	
System capacity	**473.0 l** (**125.0 US gal**)
Hydraulic system	
Type of fluid	**CASE AKCELA HY-TRAN® ULTRA™ HYDRAULIC TRANSMISSION OIL**
Total system capacity	**250.0 l** (**66.0 US gal**)
Reservoir capacity	**134.0 l** (**35.4 US gal**)
Transmission	
Type of oil	**CASE AKCELA NEXPLORE™ FLUID**
Service capacity - with filter change	**45.4 l** (**48.0 US qt**)
Axles	
Type of oil	**CASE AKCELA NEXPLORE™ FLUID**
Front axle	**42.0 l** (**44.4 US qt**)
Rear axle	**42.0 l** (**44.4 US qt**)
Front axle with axle cooler	**45.7 l** (**48.3 US qt**)
Rear axle with axle cooler	**45.7 l** (**48.3 US qt**)
Heavy duty front axle	**62.0 l** (**65.5 US qt**)
Heavy duty front axle with cooler	**65.7 l** (**69.4 US qt**)
Grease fittings, as required	**CASE AKCELA MOLY GREASE**

* Machines are shipped from the factory with break-in oil.

1121F Capacities and specifications

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